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PATENT & TRADEMARK OFFICE

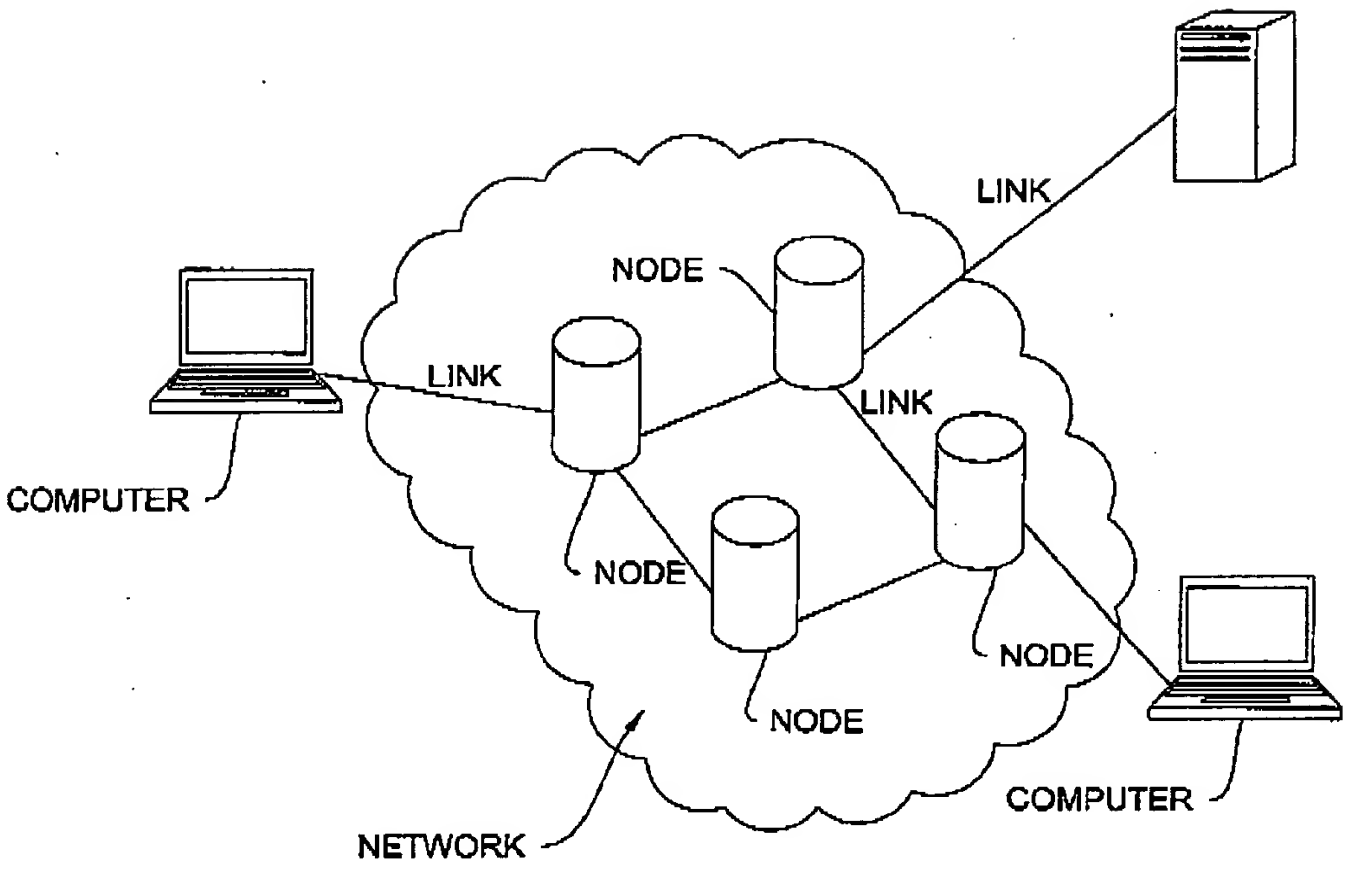

Fig. 1

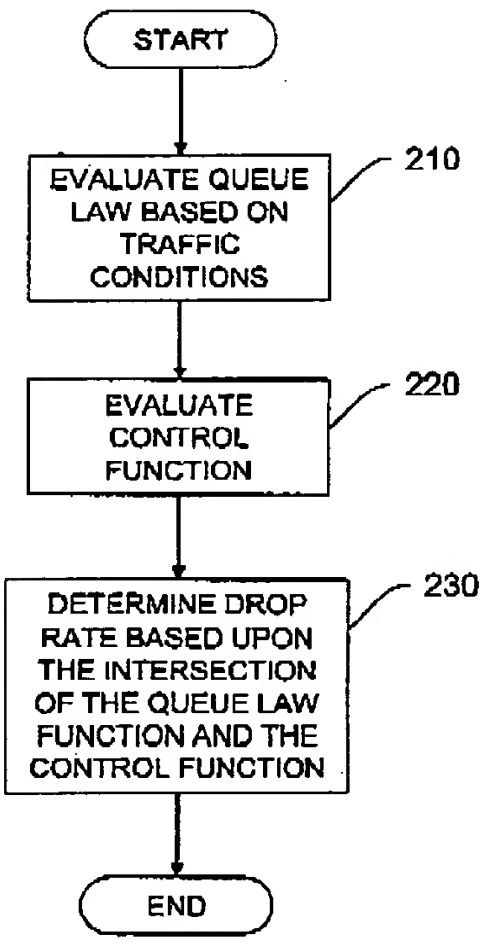
START
EVALUATE QUEUE LAW BASED ON TRAFFIC CONDITIONS
210
EVALUATE CONTROL FUNCTION
220
DETERMINE DROP RATE BASED UPON THE INTERSECTION OF THE QUEUE LAW FUNCTION AND THE CONTROL FUNCTION
230
END

Fig. 2

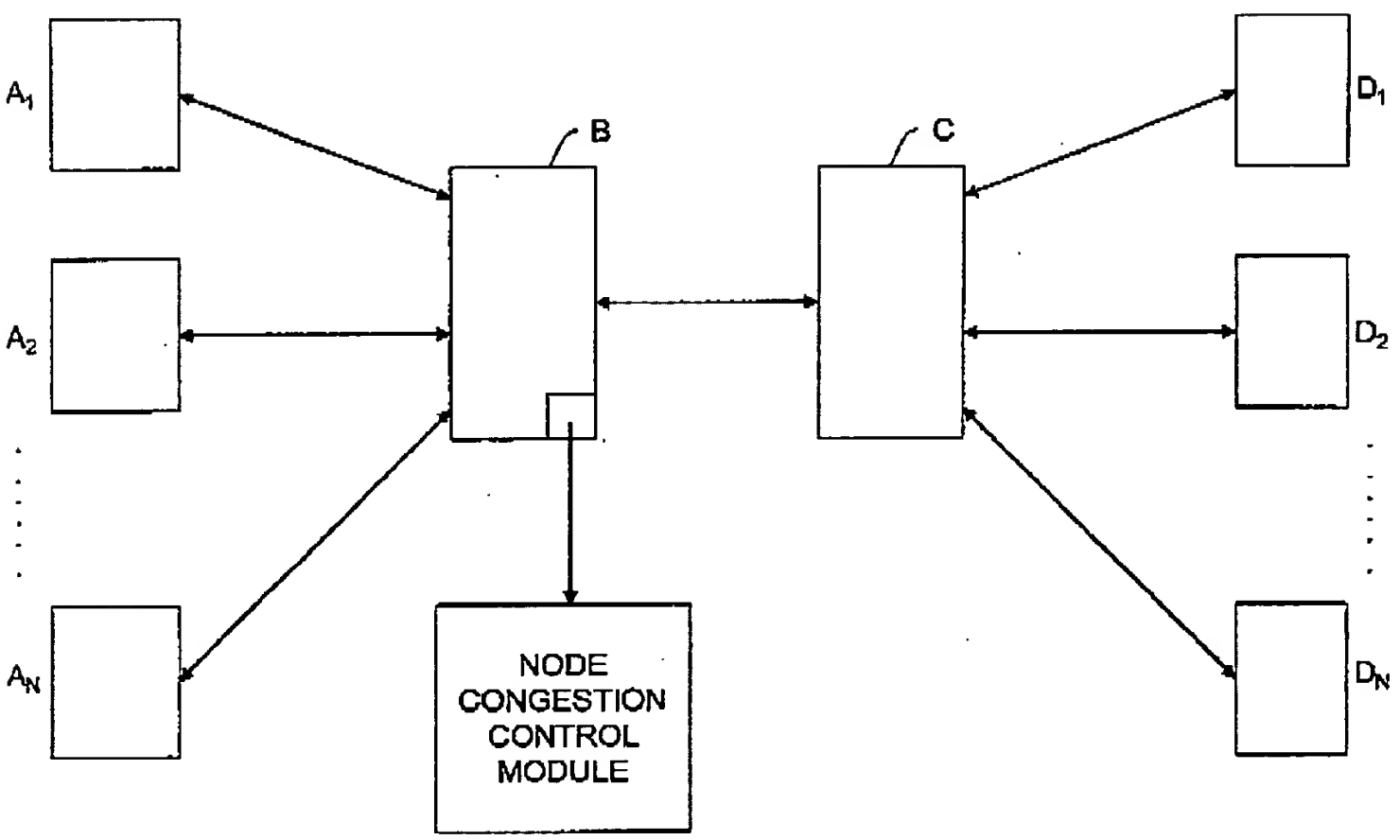

Fig. 3

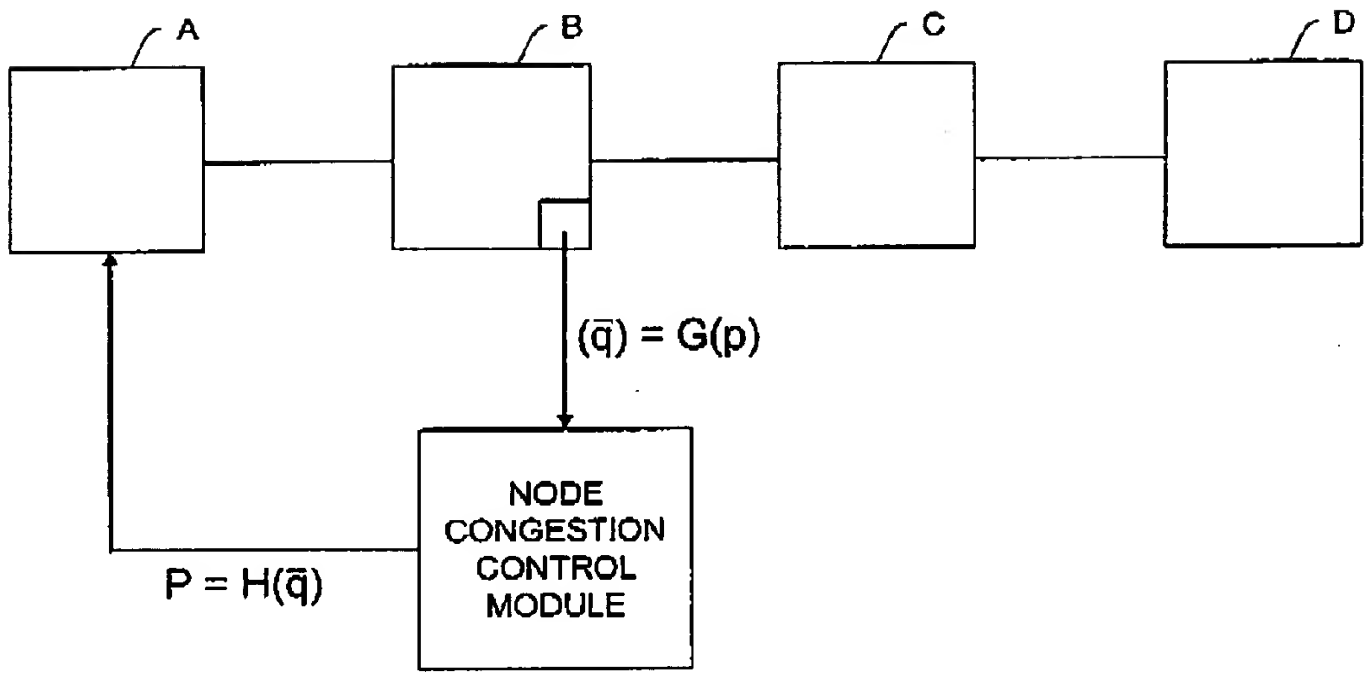

Fig. 4

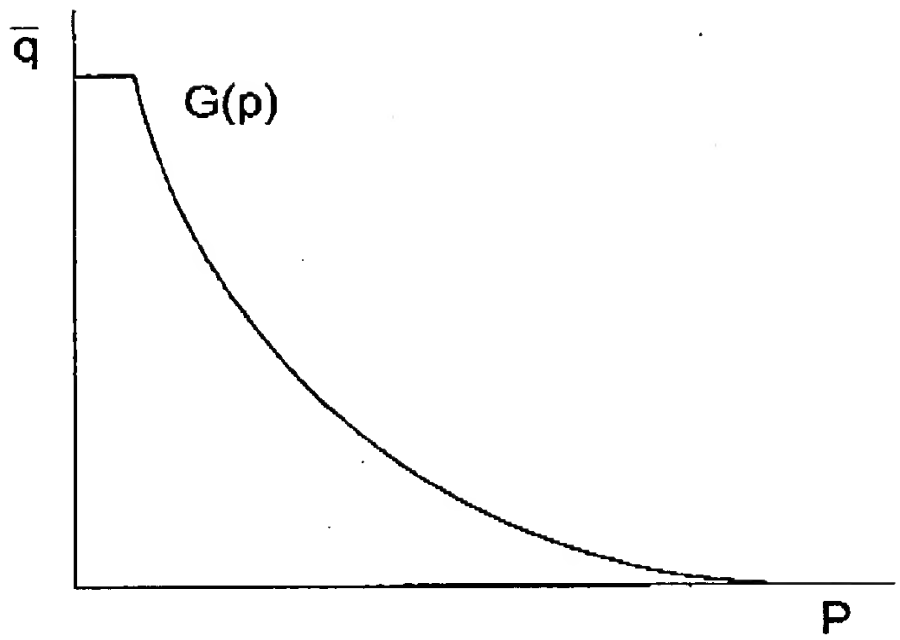

Fig. 5

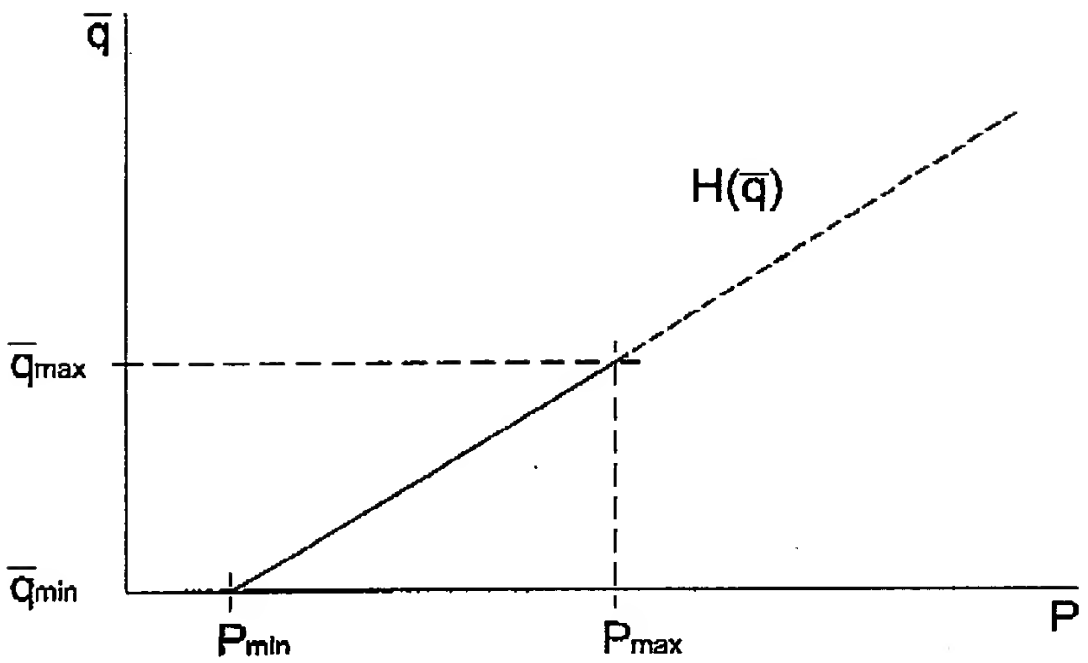
$\overline{q}$
$H(\overline{q})$
$\overline{q}_{max}$
$\overline{q}_{min}$
P_{min}
P_{max}
P

Fig. 6

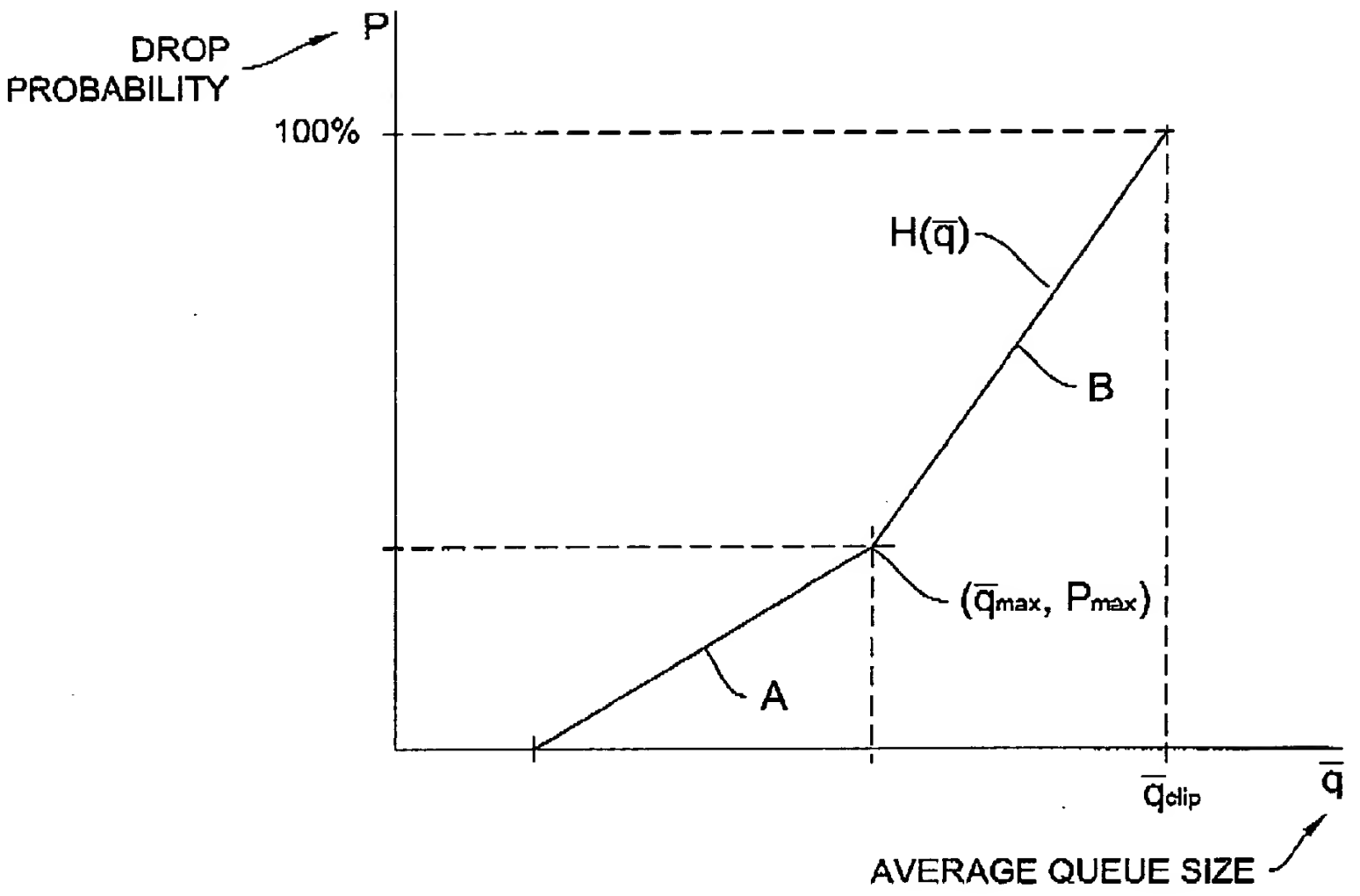
DROP PROBABILITY
P
100%
H(q̄)
B
(q̄max, Pmax)
A
q̄clip
q̄
AVERAGE QUEUE SIZE

Fig. 7

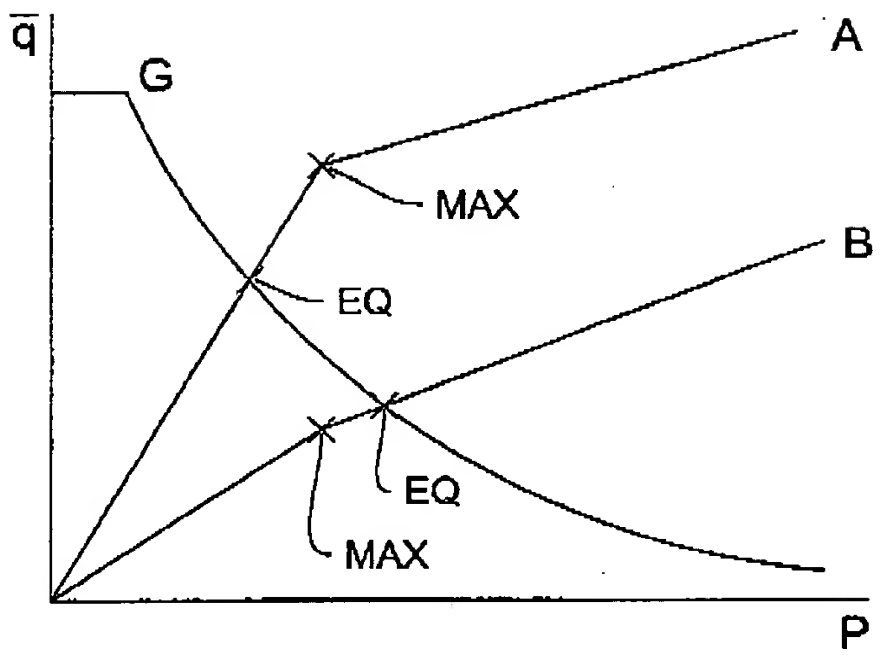

Fig. 8

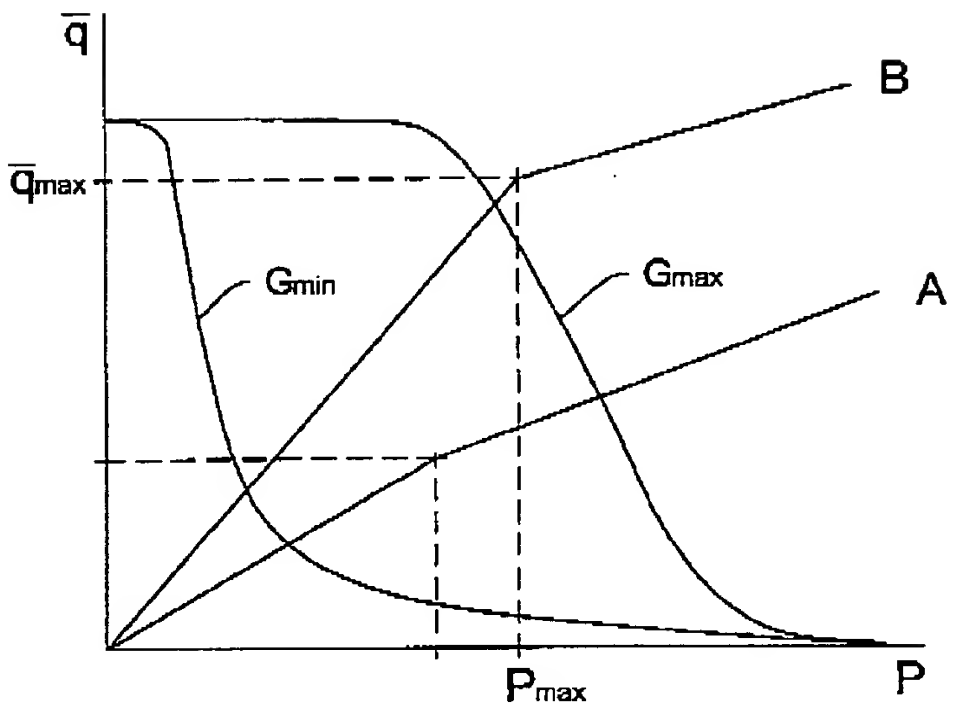

Fig. 9

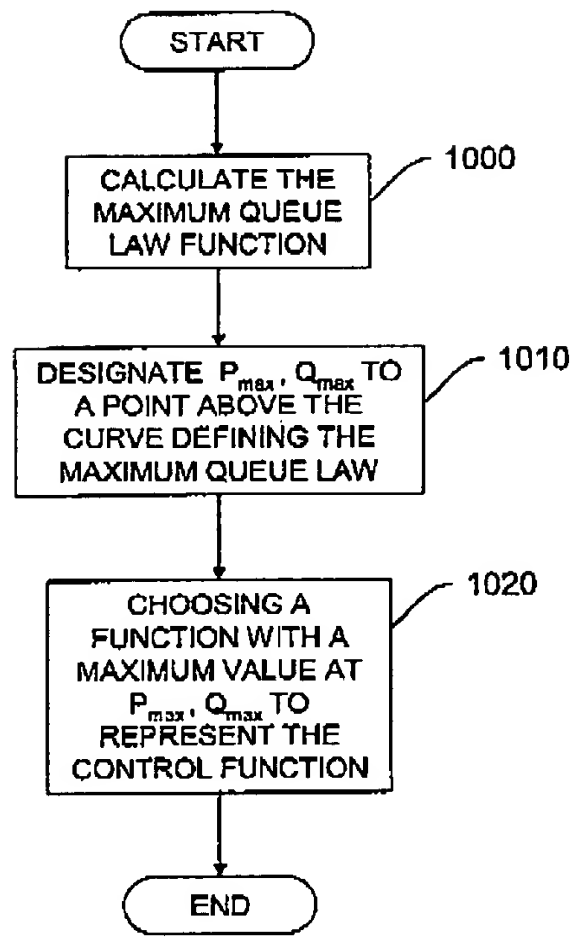
START
CALCULATE THE MAXIMUM QUEUE LAW FUNCTION
1000
DESIGNATE P_{max}, Q_{max} TO A POINT ABOVE THE CURVE DEFINING THE MAXIMUM QUEUE LAW
1010
CHOOSING A FUNCTION WITH A MAXIMUM VALUE AT P_{max}, Q_{max} TO REPRESENT THE CONTROL FUNCTION
1020
END

Fig. 10

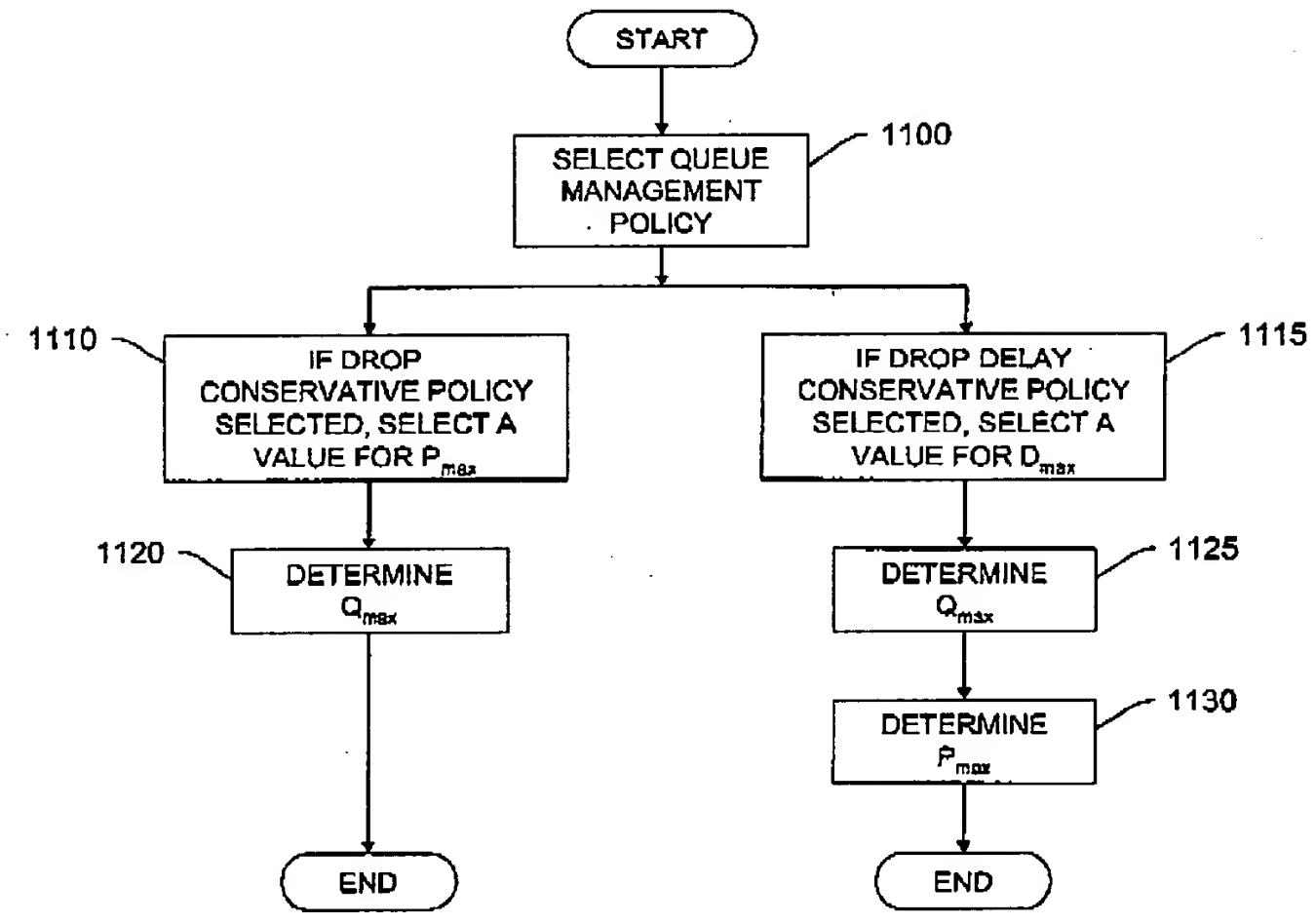
START
SELECT QUEUE MANAGEMENT POLICY
1100
1110
IF DROP CONSERVATIVE POLICY SELECTED, SELECT A VALUE FOR P_{max}
1115
IF DROP DELAY CONSERVATIVE POLICY SELECTED, SELECT A VALUE FOR D_{max}
1120
DETERMINE Q_{max}
1125
DETERMINE Q_{max}
1130
DETERMINE P_{max}
END
END

Fig. 11

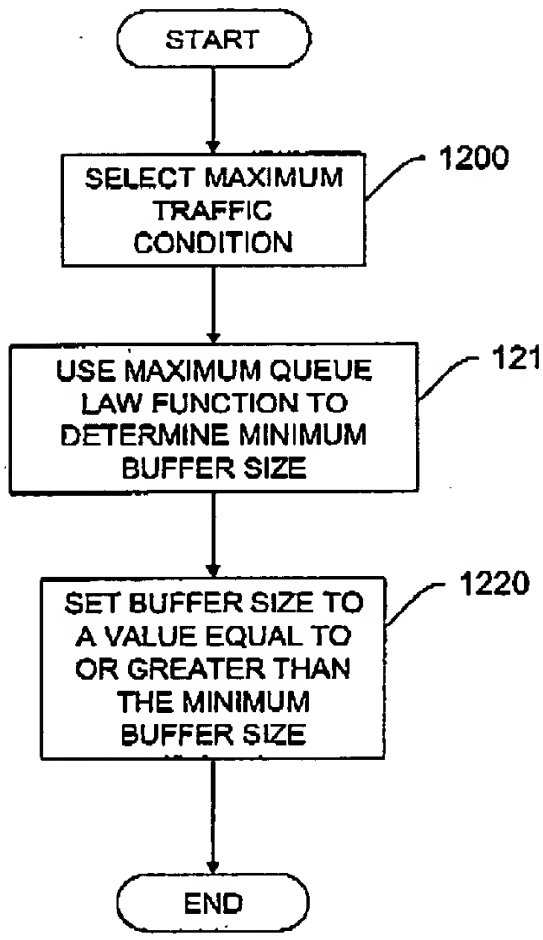
START
SELECT MAXIMUM TRAFFIC CONDITION
1200
USE MAXIMUM QUEUE LAW FUNCTION TO DETERMINE MINIMUM BUFFER SIZE
1210
SET BUFFER SIZE TO A VALUE EQUAL TO OR GREATER THAN THE MINIMUM BUFFER SIZE
1220
END

Fig. 12

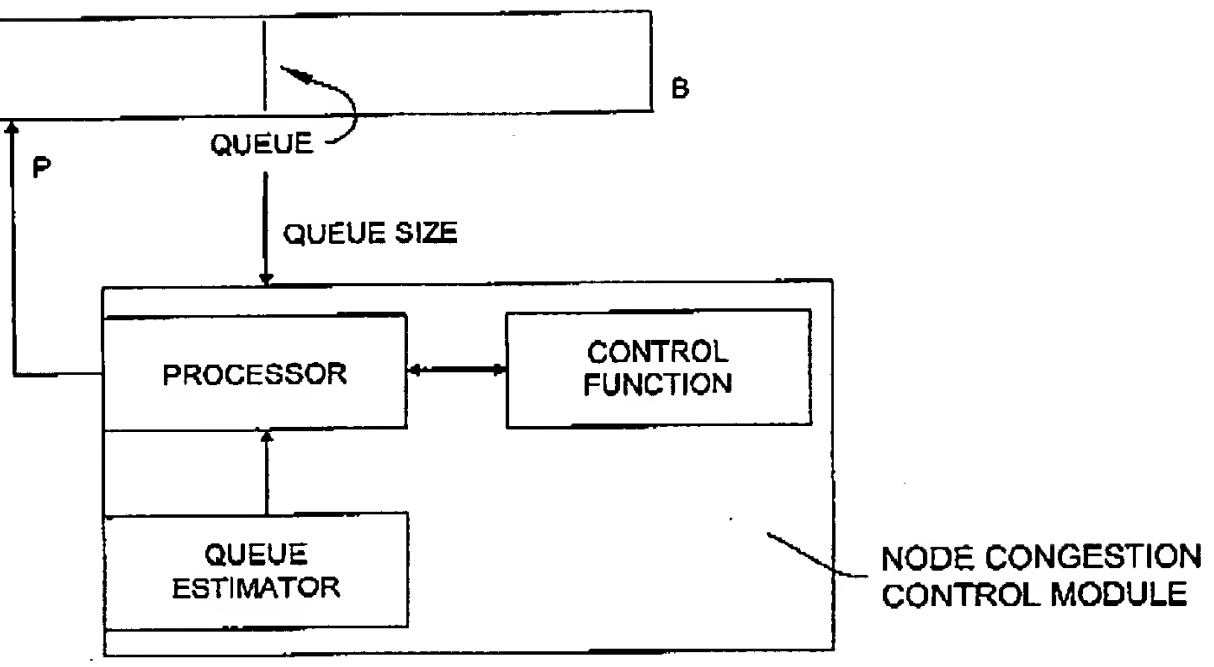
B
QUEUE
P
QUEUE SIZE
PROCESSOR
CONTROL FUNCTION
QUEUE ESTIMATOR
NODE CONGESTION CONTROL MODULE

Fig. 13

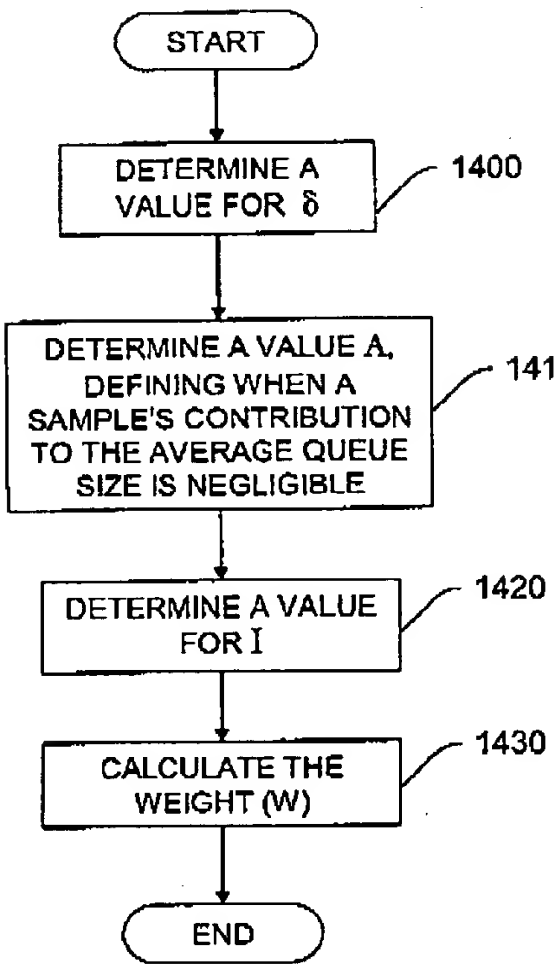
START
DETERMINE A VALUE FOR δ
1400
DETERMINE A VALUE A, DEFINING WHEN A SAMPLE'S CONTRIBUTION TO THE AVERAGE QUEUE SIZE IS NEGLIGIBLE
1410
DETERMINE A VALUE FOR I
1420
CALCULATE THE WEIGHT (W)
1430
END

Fig. 14

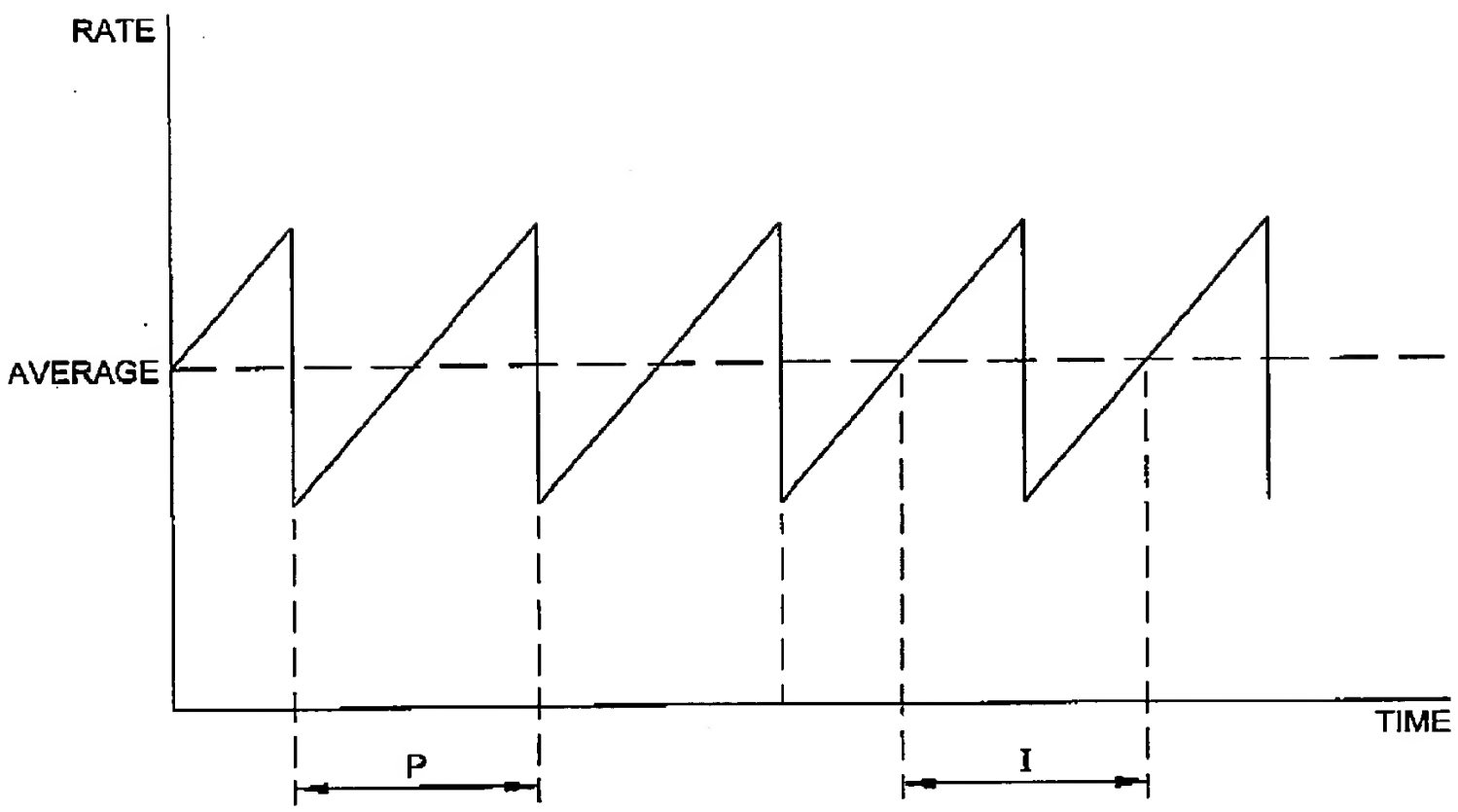

Fig. 15

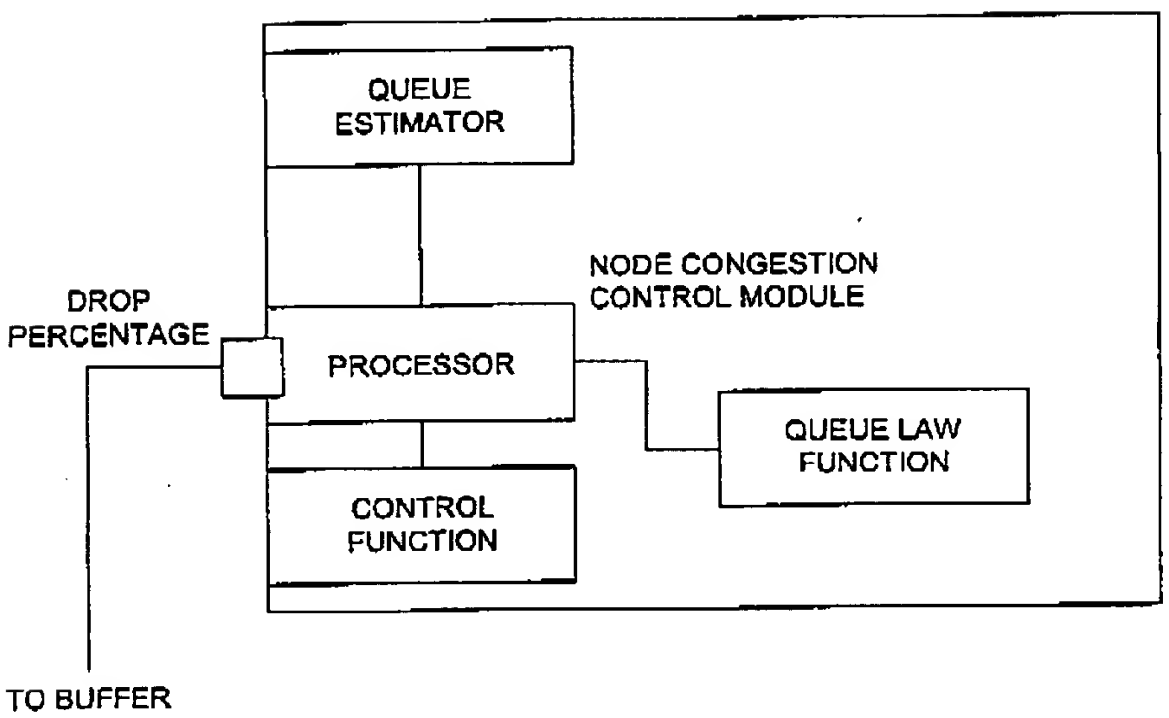
QUEUE ESTIMATOR
NODE CONGESTION CONTROL MODULE
DROP PERCENTAGE
PROCESSOR
QUEUE LAW FUNCTION
CONTROL FUNCTION
TO BUFFER

Fig. 16

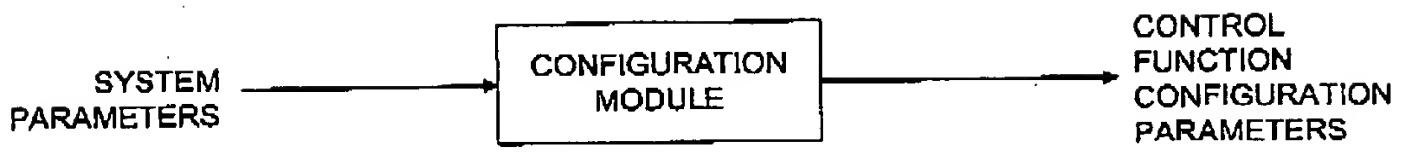

Fig. 17A

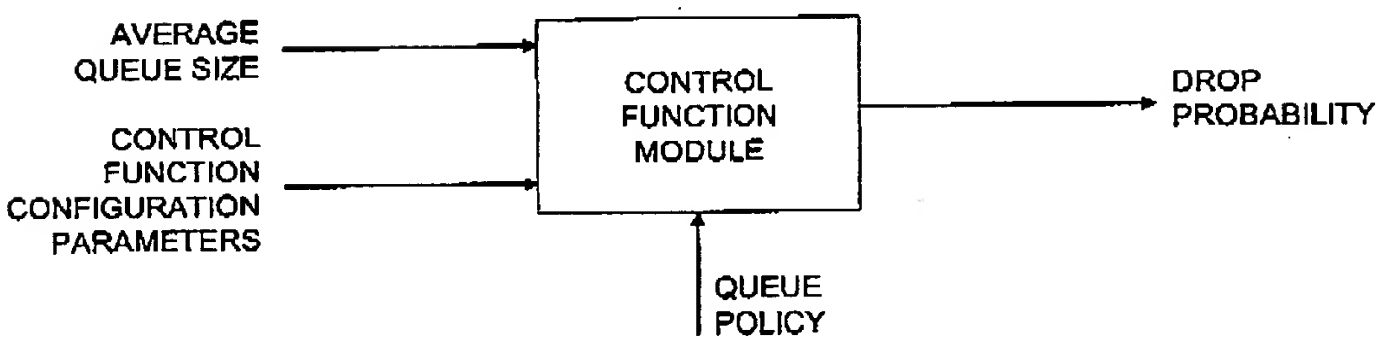

Fig. 17B

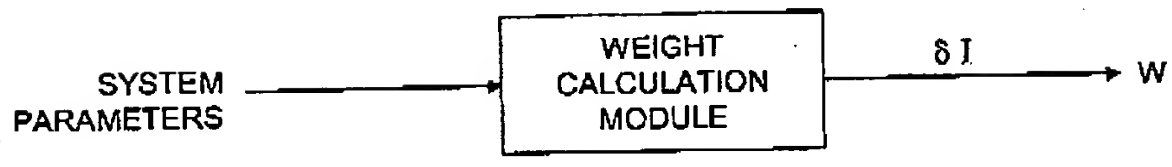

Fig. 18A

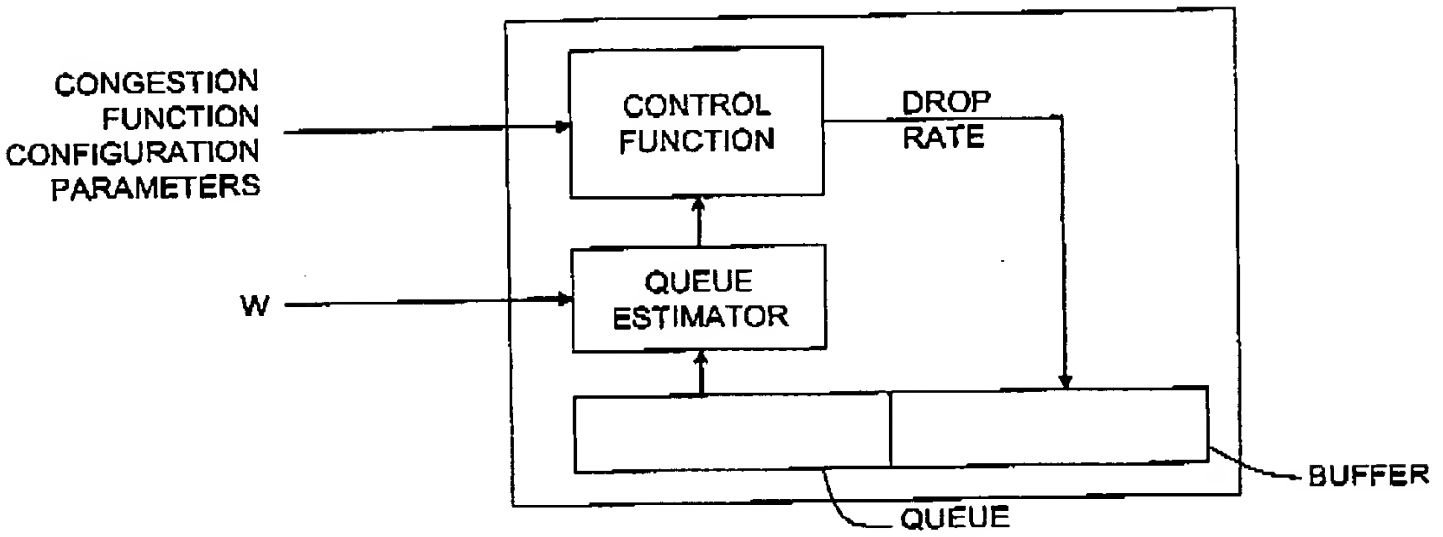

Fig. 18B